



NOTES CHLAMYDIA

MICROBE OVERVIEW

- Gram-negative, obligate intracellular bacteria
- AKA “energy parasites”; rely on host cell for adenosine triphosphate (ATP) synthesis
- Primarily infects epithelium, mucous membranes

Morphology

- Coccoid; cell walls don’t contain peptidoglycan

Replication

- **Intracellular life cycle:** infectious stage (spore-like elementary body) attaches to host cell via endocytosis → reorganizes within cellular vacuole into reticulate body (vegetative form) → reproduces, forms multiple reticulate bodies → forms elementary bodies → released from host cell → continues infectious process

MEDICALLY IMPORTANT CHLAMYDIAE

	NATURAL HOST	MODE OF TRANSMISSION	PATHOLOGY
<i>C. pneumoniae</i>	Humans	Respiratory droplets	Atypical pneumonia
<i>C. trachomatis</i>	Humans	Sexual, during childbirth	Urethritis, conjunctivitis, trachoma

CHLAMYDIA SPECIES (PNEUMONIA)

osms.it/chlamydia-species

PATHOLOGY & CAUSES

- Species of chlamydia; primarily causes community-acquired pneumonia
- Transmitted via respiratory secretions
- Can also infect endothelial cells → atherosclerosis

RISK FACTORS

- ↑ risk with age

COMPLICATIONS

- Otitis media, sinusitis, parapneumonic effusions, pericarditis

VISIT...

LANZAROTE
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SIGNS & SYMPTOMS

- Gradual onset
- General malaise, myalgia, fever, chills, pharyngitis, hoarseness, sinusitis, cough
- *Extra-respiratory manifestations:* meningoencephalitis, reactive arthritis, myocarditis

DIAGNOSIS

DIAGNOSTIC IMAGING

Chest X-ray

- Unilateral patchy infiltrates

LAB RESULTS

- *Microbial identification:* serology, polymerase chain reaction (PCR), nasopharyngeal swab culture, direct antigen testing
- *Complete blood count (CBC):* normal white blood cell count

OTHER DIAGNOSTICS

- *History, physical examination:* lung sounds (e.g. crackles, wheezing)

TREATMENT

MEDICATIONS

- Antibiotics

CHLAMYDIA TRACHOMATIS

osms.it/chlamydia-trachomatis

PATHOLOGY & CAUSES

- Species of chlamydia; primarily affects eyes, urogenital tract
- Different serovars cause diverse disease states
 - A, B, Ba, C: trachoma
 - D–K: urogenital infection, conjunctivitis
 - L1, L2, L2a, L2b, L3: lymphogranuloma venereum

RISK FACTORS

- Risky sexual practices (e.g. multiple sex partners, unprotected sex)
- Impaired mucous membrane barrier (e.g. cervical friability)
- History of sexually transmitted disease
- Exposure during birth

COMPLICATIONS

- *Ocular:* ophthalmia neonatorum (conjunctivitis), blindness
- *Genitourinary:* pelvic inflammatory disease (PID), PID-associated ectopic pregnancy, infertility, proctitis, cervicitis, urethritis

- Chlamydial pneumonia, bronchitis, perihepatitis (Fitz-Hugh–Curtis syndrome); ↑ risk of acquiring/transmitting HIV due to genital inflammation

SIGNS & SYMPTOMS

Trachoma

- Chronic, granulomatous inflammation of eye → corneal ulceration, scarring, pannus formation → blindness

Adult conjunctivitis

- Inclusion (purulent erythematous injection of epithelial surface) conjunctivitis, mucopurulent discharge → keratitis

Urogenital infections

- Individuals who are biologically female
 - May be asymptomatic
 - Bartholinitis, cervicitis (mucopurulent endocervical discharge), endometritis, salpingitis, urethritis (dysuria, pyuria)
 - PID: uterine/adnexal tenderness
 - Perihepatitis: right upper quadrant (RUQ) pain

- Individuals who are biologically male
 - **Urethritis:** dysuria, watery/mucoid discharge

Neonatal conjunctivitis

- Eyelid swelling, watery/purulent discharge, red, thickened conjunctiva (chemosis)
- Conjunctival scarring, corneal vascularization
- ↑ risk of developing *C. trachomatis* pneumonia

Infant pneumonia

- Diffuse, interstitial disease; rhinitis, staccato cough

Lymphogranuloma venereum (LGV)

- **Anorectal disease:** anorectal pain, tenesmus (feeling of incomplete bowel evacuation), rectal bleeding/discharge, constipation
- Painless ulcer → inflammation of lymph nodes (preauricular, submandibular, cervical) → progression to systemic symptoms
- **Population at highest risk:** individuals who are biologically male who have same-sex intercourse (MSM)

DIAGNOSIS

LAB RESULTS

- **Microbial identification:** nucleic acid amplification test (NAAT)

OTHER DIAGNOSTICS

- Clinical presentation, history

TREATMENT

MEDICATIONS

- Antibiotics
- Sexual partners should also be treated



Figure 62.1 Purulent discharge from the cervix of an individual with chlamydia infection.

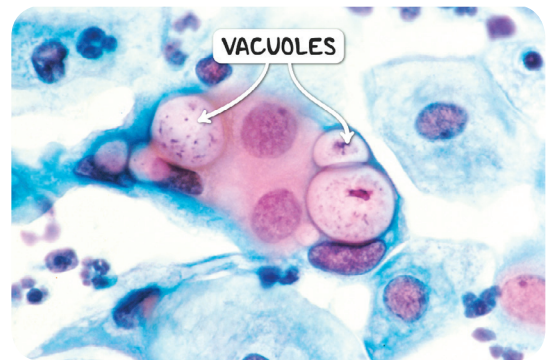


Figure 62.2 A cervical smear from an individual infected with *Chlamydia trachomatis*. There are numerous organisms contained within intracellular vacuoles.